Congressionally Directed Medical Research Programs
Peer Reviewed Medical Research Program

CDMRP History

The Congressionally Directed Medical Research Programs (CDMRP) was born from a powerful grassroots effort led by the breast cancer advocacy community that convinced Congress to appropriate funds for breast cancer research. This enabled a unique partnership among the public, Congress, and the military. The CDMRP has grown to encompass multiple targeted programs and has received over $3 billion in appropriations from its inception in Fiscal Year 1993 (FY03) through FY06. Funds for the CDMRP are added by Congress to the Department of Defense (DOD) budget to provide support for multiple targeted research programs, such as the Peer Reviewed Medical Research Program (PRMRP). The CDMRP program management model shown at right includes a two-tier review process for proposal evaluation, recommended by the Institute of Medicine. The first tier of evaluation is a scientific peer review of proposals against established criteria for determining scientific merit. The second tier is a programmatic review of proposals that is conducted by an integration panel which compares submissions to each other and recommends proposals for funding based on scientific merit and program goals and priorities.

PRMRP

Vision: to protect warfighters and their beneficiaries

The overall goal of the PRMRP is to find and fund the best medical research to protect and support warfighters and their beneficiaries and to eradicate diseases that impact these populations.

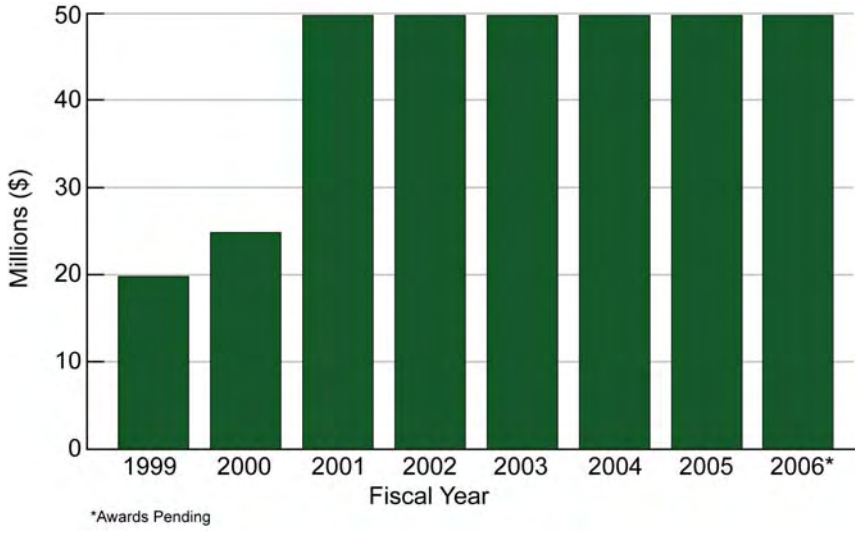
History

The PRMRP was established in FY99 by a Congressional Appropriation, which provided $19.5 million (M) to the DOD to establish a medical research program that focused specifically on issues pertinent to U.S. military forces. The United States Army Medical Research and Materiel Command became the Executive Agent for the program. Programmatic oversight is provided by representatives from the four military services, the Assistant Secretary of Defense for Health Affairs, and the Departments of Veterans Affairs and Health and Human Services. From FY99 through FY06, Congress appropriated a total of $344.5M through the PRMRP to fund scientifically meritorious peer reviewed research focused on military health issues in multiple topic areas. From the inception of PRMRP, the key funding award mechanism has been the Investigator Initiated Research Award, covering basic to clinical research. Other funding award mechanisms have been added to promote collaborative research including New and Existing Program Projects. Additionally, PRMRP investigators have made significant contributions in the area of advanced technology and applied research. Two award mechanisms that have been specifically designed to encourage Advanced Technology development include:

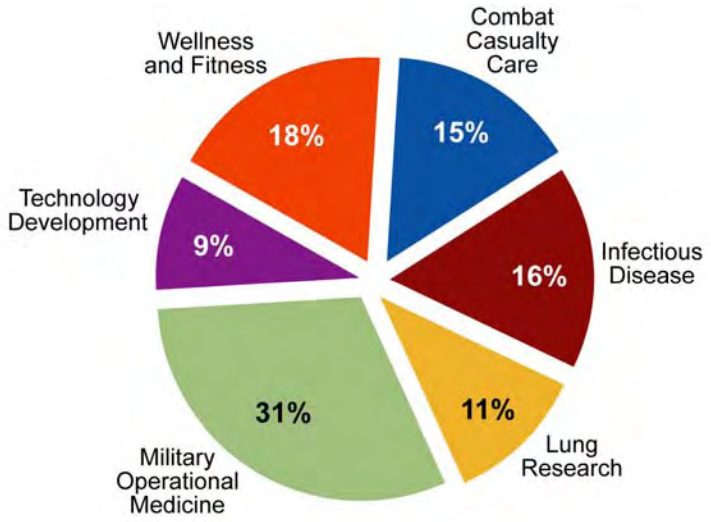
- Advanced Technology: Product/Technology Down-Selection or Optimization Award: Assesses the product or technology scientific and business feasibility and determines product or technology readiness to move into clinical testing.
- Advanced Technology: Clinical Testing/Trials (Human Subjects) Award: Assesses product/technology scientific and business feasibility and determines its readiness to transition a product to an advanced developer.

A total of 196 awards has been made using these various mechanisms through FY05.

Appropriations



Portfolio FY99-05



FY06 Research Topic Areas:

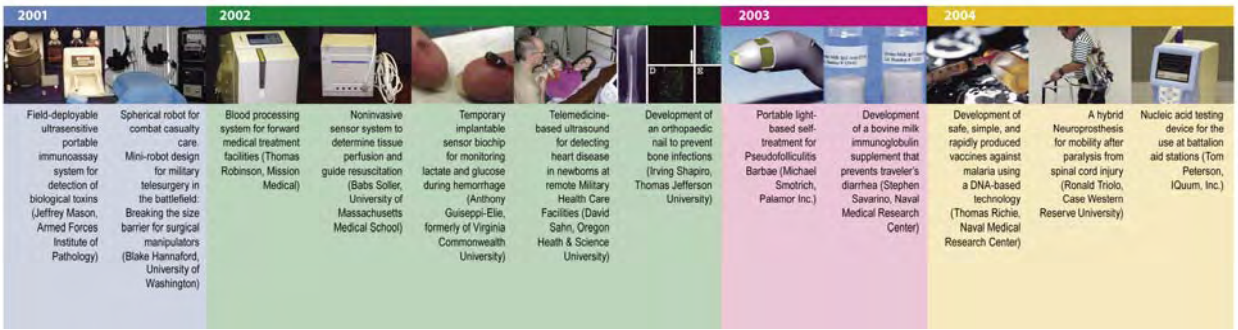
FY06 PRMRP Research Topic Areas	
• Advanced Proteomics • Alcoholism Research • Autism • Autoimmune Diseases: Scleroderma and Sjogren's Syndrome • Blood-Related Cancer Research such as Leukemia, Lymphoma, and Multiple Myeloma • Childhood Asthma • Chronic Pain and Fatigue Research • Childhood Cancer Research • Diabetes Research • Duchenne's Disease Research • Eye and Vision Research • Fibromyalgia • Interstitial Cystitis Syndrome • Kidney Cancer Research • Lupus Research	• Military Relevant Disease Management[1] with special emphasis on: ▪ Antibiotic Resistance; ▪ Neurotoxicity of Mefloquine; ▪ Rehabilitation (Face and/or Eye Injury); ▪ Human Performance Optimization; ▪ Efficacy and Subsequent Clinical Guidelines for the Use of Probenecid or Other Drugs to Decrease Dosage Requirements of Oseltamivir Phosphate for the Treatment of Influenza; ▪ Drug Abuse; ▪ Respiratory Infection Including Associated Respiratory Disease; ▪ Radio-Protectants; and ▪ Mental Health Resiliency • Osteoporosis and Bone-Related Diseases • Polycystic Kidney Disease • Pulmonary Hypertension • Paget's Disease • Post traumatic Stress Disorders • Social Work Research

[1] Topic Area added by Health Affairs

Research Highlights

The PRMRP is advancing military health-related research by funding innovative research in both preclinical and clinical stages. The PRMRP strives to promote development of new military relevant products and technologies.

Notable Technological Advances



Individual Success Stories

INVESTIGATOR INITIATED AWARDS fund basic or clinical military-relevant health research in response to one of the topic areas solicited.

Dr. Babs Soller at the University of Massachusetts in collaboration with the Luxtex Corporation and Nimbis

Medical is developing and testing a prototype, portable sensor system based on near infrared spectroscopy to noninvasively measure tissue perfusion. This system quickly and accurately measures muscle pH, muscle oxygen tension, and hematocrit from light reflected from the forearm muscle and will guide combat medical personnel in resuscitation care. The prototype devices are currently in ongoing clinical trials at UMass Memorial Medical Center and have been delivered to the USAMRMC's Core Combat Casualty Care Research Program for further field testing and evaluation.

- Soyemi OO, Shear MA, Landry M, Anunciacion D, and Soller BR. 2005. In-vivo, noninvasive measurement of muscle pH during exercise using near infrared spectroscopy. *Proc SPIE* 6607:117-124.
- Shear MA, Soyemi OO, Landry M, and Soller BR. 2005. Multivariate calibration with slowly responding reference measurements. *Proc SPIE* 6607:125-132.

Dr. John Harmon at Johns Hopkins University is using electroporation, where an electric field passed

through tissue opens small pores in cell membranes to successfully deliver DNA molecules into cells. Dr. Harmon is using mouse models to study the effect of delivering the gene for keratinocyte growth factor (KGF) by electroporation. The technique improved the speed of closure in slow-healing wounds produced experimentally in mice. An additional benefit of this technique may be the treatment of slow wound healing in diabetics as observed in diabetic mice having KGF delivered into wounds by electroporation.

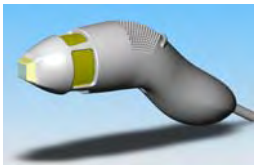
- Ferguson M, Byrnes C, Sun L, Marti G, Bonde P, Duncan M, and Harmon JW. 2005. Wound healing enhancement: electroporation to address a classic problem of military medicine. *World J Surg* 29 Suppl 1:S55-9.

ADVANCED TECHNOLOGY AWARDS support the advanced development of a military health-related product or technology in response to one of the topic areas solicited.

Dr. Lenard Lichtenberger at the University of Texas Health Science Center-Houston is investigating the

utility of a new class of Non Steroidal Anti-Inflammatory Drugs (NSAIDs), which are coupled with phosphatidylcholine (PC), in the treatment and/or prevention of chronic neuropathic pain associated with spinal cord injury. Preliminary results in rodent model systems show that PC-NSAIDs have a lower gastrointestinal toxicity and enhanced therapeutic effectiveness than the parent NSAID to inhibit fever, inflammation, and pain. Positive results in these preclinical studies should hasten the development of PC-NSAID formulations for oral and intravenous use for improved treatment of patients suffering from Chronic Pain Syndrome. It is intended that the research performed during this project will result in better treatment for military personnel immediately following battle and/or accidents to help prevent early inflammatory processes that lead to painful injury. Publications from this work will be forthcoming in the near future.

Dr. James Childs from Palomar Medical Technologies, Inc., is developing a self-operated, portable, low irradiance Pseudofolliculitis barbae (PFB) treatment device without physician supervision. The condition is marked by inflammation on the beard area which can compromise the ability to wear close fitting protective facial gear. Current protocols are in clinical trials at the Naval Medical Center in San Diego using a larger, physician-operated system. Further trials are planned with the Navy and Army for smaller units using self-treatment parameters. If successful, this device would not only be a great benefit to military service personnel but to the general public as well. Publications from this work will be forthcoming in the near future.



PROGRAM PROJECT AWARDS support multidisciplinary programs focused on a specific and important military-relevant medical condition, injury, or disease process.

CAPT Stephen Savarino at the Naval Medical Research Center in collaboration with Johns Hopkins University is developing bovine milk immunoglobulins (BIgG) as a supplement with activity against enterotoxigenic *Escherichia coli*, the predominant cause of traveler's diarrhea. Diarrhea is a significant health threat for military and civilian travelers to developing countries. Incidence rates as high as 50% occur where food and water sanitation is poor. The military requirement for solutions in this area is becoming more acute. Since the inception of the war on terrorism, the global commitment of U.S. fighting forces has been increasingly concentrated in developing areas of the world. Rehydration and antibiotic treatment are the cornerstones of disease management, but even with early institution of appropriate therapy, diarrheal diseases exact a cost in terms of lost duty and effectiveness. There is no licensed drug or biologic that provides a safe, effective mode of prevention, leaving an important deficiency in military and travel medicine. This investigational treatment has shown proof of principle as a safe, food-based anti-diarrheal supplement and has recently begun clinical testing.

- Savarino S. 2006. Development of a bovine milk immunoglobulin supplement that prevents traveler's diarrhea by blocking pathogen adherence. Abstract Submitted to the 2006 PRMRP Military Health Research Forum, San Juan, Puerto Rico.

http://cdmrp.army.mil/prmrp